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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/554,716

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Peter Hader

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EXAMINER

CIGNA, JACOB JAMES

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/554,716	Applicant(s) HADER ET AL.	
	Examiner JACOB J. CIGNA	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/23/2010 has been entered.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 recites the limitation "the hydraulic supporting force" in line 6. There is insufficient antecedent basis for this limitation in the claim.
3. Claim 1 recites the limitation "the liquid pressure required for producing the hydraulic supporting force" in lines 10-11. There is insufficient antecedent basis for this limitation in the claim. Specifically, this iteration of the limitation "the hydraulic supporting force" presents no antecedent basis issues due to the instance aforementioned in line 6, however the limitation "the liquid pressure required..." in line 10 has no antecedent basis.
4. Claim 12 recites the limitation "the means for internal support" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. While the claim correctly uses 35 USC 112 paragraph 6 to recite a means for internal support (examiner reads

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from paragraph 0020 of the specification to be a spiral coil of an elastically deformable material, for example), the claim's "the means" language presents antecedent basis issues because no prior means for or spiral coil is found in claims 10, 6, 4, or 1.

5. Claim 15 recites the limitation "the means for determining" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. While the claim correctly uses 35 USC 112 paragraph 6 to recite a means for determining the hydraulic pressure (examiner reads from paragraph 0022 of the specification to be a pressure sensor), the claim's "the means" language presents antecedent basis issues because no prior means for or pressure sensor language is found in claims 1 or 15.

6. Claim 16 recites the limitation "the pneumatic pressure" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5, 11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kusters et al. (US Patent 3,046,637 hereinafter referred to as KUSTERS).

9. As to claim 1, KUSTERS teaches **a roll (100)** (the roller shown in Figure 1) **for pressure treatment of material bands** ("The invention relates to a roller for the pressure treatment of material in web form" (Column 1 lines 11-12)), **with a carrier (3)**

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(core 2), **with a roll shell (4)** ("The hollow cylinder forming the working roller periphery is indicated at 1" (Column 2 lines 24-25)) **mounted around the carrier (3)** (as shown in Figure 1, the hollow cylinder 1 is mounted around the core 2), **with at least one pressure chamber (12) between the carrier (3) and the roll shell (4)** (KUSTERS teaches a gap 8. In order to more clearly indicate the pressure chamber, Examiner takes the position that each gap 8 in the upper half of the circle shown in Figure 1 or 2 is the pressure chamber. This reading is directly analogous to the embodiment provided by Applicant in the drawings due to the sealing arrangements (10, 11). Examiner notes that the sealing is performed by the tubes 5, as shown in Figures 1 and 2)), **which chamber is filled at least partly with a supporting liquid** ("The space containing the tubes may be filled with a heat resistant synthetic oil preferably flowing through it" (Column 2 lines 7-8).) **which can transmit the hydraulic supporting force from the carrier (3) to the roll shell (4), at least indirectly** (Examiner notes that the fluid (synthetic oil) is capable of performing the transmitting function as described), **wherein in the at least one pressure chamber (12) there is provided an elastic element (18')** (KUSTERS teaches tubes 5, which are made of "resilient material"(Column 1 lines 53-54) **which unrestrictedly communicates with the liquid constriction-free** (as shown in Figures 1 and 2, the tubes 5 communicate with the synthetic oil constriction-free) **and is compressible when the liquid pressure required for producing the hydraulic supporting force is exceeded** ("The said tubes are filled with a fluid (liquid or gas) and adapted to be connected to a source of pressure" (Column 1 lines 55+). Examiner notes that the tubes are compressible).

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10. As to claim 2, KUSTERS teaches the roll as claimed in claim 1, wherein **the roll comprises at least one leakage chamber (13) for receiving supporting liquid leaving the pressure chamber (12)** (Examiner extends the analogy of the pressure chamber from claim 1 as related to Applicant's own drawings, such that each gap 8 below the horizontal center of the circle shown in Figures 1 or 2 is the leakage chamber. The sealing is performed by the tubes 5.).

11. As to claim 3, KUSTERS teaches the roll as claimed in claim 2, wherein **at least one elastic element (18) is provided in the at least one leakage chamber (13)** (as shown in Figures 1 and 2, there are tubes 5 below the horizontal center of the circle).

12. As to claim 4, KUSTERS teaches the roll as claimed in claim 1, wherein **the at least one elastic element (18, 18') comprises a hollow chamber which is, or can be, provided with a compressible medium** (KUSTERS teaches ("The said tubes are filled with a fluid (liquid or gas) and adapted to be connected to a source of pressure" (Column 1 lines 55+). Examiner notes that the tubes and liquid and gas are compressible).

13. As to claim 5, KUSTERS teaches the roll as claimed in claim 4, wherein **the at least one elastic element (18, 18') is formed as a hose** (KUSTERS refers to this element as a tube. As shown in Figure 3, the tubes are elongated in the shape of a hose).

14. As to claim 11, KUSTERS teaches the roll as claimed in claim 5, wherein **the elastic elements (18, 18') formed as hoses comprise means for internal support**

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(20) (KUSTERS teaches spherical hollow bodies 12 which serve to prevent distortion of the tube beyond desired limits (Column 2 lines 50+)).

15. As to claim 13, KUSTERS teaches the roll as claimed in claim 1, wherein **the at least one elastic element (18, 18') is provided in a recess machined into the carrier (3)** (as shown in Figure 2, the tubes 5 are provided in a recess in the core 2).

16. As to claim 14, KUSTERS teaches the roll as claimed in claim 13, wherein **the recess has the form of an axially parallel running longitudinal groove (14, 15, 16, 17)** (as shown in Figure 3, the tubes 5 run the entire longitudinal length of the cylinder and the core).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 6-10 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over KUSTERS as applied to claim 6 above, and further in view of Hornbostel (US Patent 3,098,284 hereinafter referred to as HORNBOSTEL).

19. As to claim 6, KUSTERS teaches the roll as claimed in claim 4, but does not teach **the compressible medium is air**. KUSTERS merely teaches that the compressible medium is a liquid or a gas. However, air is a well known gas which is useful for filling tubes in rollers subject to deflection in paper making processes. HORNBOSTEL teaches a roll which uses elastic tubes to control the crowning of the

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roll, the tubes being filled with air. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have provided the tubes of KUSTERS to be filled with air as taught by HORNBOSTEL because one would have recognized that air is a plentiful resource and has well known heating, compression, and other material properties to be controlled in a pressure compression system.

20. As to claim 7, KUSTERS in view of HORNBOSTEL teaches the roll as claimed in claim 6, wherein **the elastic element (18, 18') is closed and filled with a predetermined pressure** (KUSTERS teaches, "The tubes may each be closed at each end whereby if the pressure loading is effected through the journals of the rotating core a pressure is then only produced in the tubes on the side in the part of the roller in the vicinity of the surfaces with which it co-acts" (Columns 1-2 lines 70-3).).

21. As to claim 8, KUSTERS in view of HORNBOSTEL teaches the roll as claimed in claim 7, wherein **the elastic element (18, 18") is subjected to air under atmospheric pressure** ("The pressure supplied to the tubes 5 may be varied according to the purposes for which the roller is required but usually a pressure of about one atmosphere is found to be satisfactory" (KUSTERS Column 2 lines 55+).).

22. As to claim 9, KUSTERS in view of HORNBOSTEL teaches the roll as claimed in claim 7, wherein **the elastic element (18, 18') comprises a one-way valve, by means of which it can be filled with air under a pressure that is lower than the pressure exerted on the hydraulic supporting liquid operation** (HORNBOSTEL teaches, "The fluid under pressure such as air under pressure may be fed from a suitable source S

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through a pressure control valve V-21" (Column 4 lines 37-39). Furthermore, HORNBOSTEL teaches an embodiment in which the elastic tubes are inflated to a pressure that is lower than pressure exerted upon them, creating the negative crown as shown in Figure 2).

23. As to claim 10, KUSTERS in view of HORNBOSTEL teaches the roll as claimed in claim 6, wherein **the at least one elastic element (18, 18') is connected to a compressed air source (26)** (HORNBOSTEL teaches that the "air under pressure may be fed from a suitable source S" (Column 4 lines 37-39).), **by means of which the pressure can be adjusted in such a way that it is always slightly higher than the pressure exerted on the hydraulic supporting liquid** (Furthermore, HORNBOSTEL teaches an embodiment in which the elastic tubes are inflated to a pressure that is higher than pressure exerted upon them, creating the positive crown as shown in Figure 1).

24. As to claim 15, KUSTERS in view of HORNBOSTEL teaches the roll as claimed in claim 1, but does not teach **the means for determining the hydraulic pressure exerted on the supporting liquid are provided**. KUSTERS teaches that there is a "source of pressure" but does not go into detail regarding the source of pressure (Column 2 lines 41+). HORNBOSTEL teaches a similar roller using inflated tubes to effect pressures on a rotatable outer shell. The tubes are pressure controlled. HORNBOSTEL teaches that "air under pressure may be fed from a suitable source through a pressure control valve V-21" (Column 4 lines 37-39). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was

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made to have provided the means for determining the hydraulic pressure exerted on the supporting liquid as taught by HORNBOSTEL in the roller of KUSTERS because one would have recognized that an easy way to control the pressure would have been to feed the fluid through a pressure control valve as taught by HORNBOSTEL.

25. As to claim 16, KUSTERS in view of HORNBOSTEL teaches the roll as claimed in claim 15, wherein **the roll is designed in such a way that the means for determining the hydraulic pressure serve for controlling or regulating the pneumatic pressure to which the at least one elastic element (18, 18') is subjected** (HORNBOSTEL teaches a pressure control valve which is useful for controlling the pneumatic pressure to which the at least one elastic element is subjected).

26. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over KUSTERS as applied to claim 6 above, and further in view of Hornbostel (US Patent 3,098,284 hereinafter referred to as HORNBOSTEL) as applied to claim 10 above, and further in view of Korsch (US Patent 3,470,948 hereinafter referred to as KORSCH).

27. As to claim 12, KUSTERS in view of HORNBOSTEL teaches the roll as claimed in claim 10, but does not teach **the means for internal support (20) comprise a spiral coil of an elastically deformable material**. However, KORSCH teaches a roller useful for rolling paper which uses hoses filled with a fluid to effect damped pressure. An embodiment of KORSCH is similar to HORNBOSTEL in that the tube is spiraled around a center core. Another embodiment is more similar to KUSTERS in that tubes are longitudinally arranged along the core as shown in Figure 6. KORSCH teaches regarding the embodiment of Figure 6, "It is of course, to be understood that, if desired,

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the pressure hoses may also be armed or reinforced by inserts of textile material, metallic threads, or glass fiber threads” (Column 3 lines 69-71). Thus, reinforcement of elastically deformable material is known in the art in tubes used for effecting pressures in rollers used in paper-making. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have provided the internal support comprising a spiral coil of an elastically deformable material as taught by KORSCH in the roller of KUSTERS in view of HORNBOSTEL because one would have recognized that as KUSTERS recognizes the need for reinforcement of the tubes, that the reinforcement of KORSCH would have provided extra reinforcement against collapse or unwanted distortion.

Response to Arguments

28. Applicant’s arguments, see pages 6-10, filed 23 December 2010, with respect to the rejection(s) of claim(s) 1-16 under combinations of Schiel and Roberts have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of KUSTERS, HORNBOSTEL and KORSCH.

29. Examiner points out that the longitudinal hoses of KUSTERS (tubes 5) meet with the supporting fluid (synthetic oil) in a constriction free manner.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB J. CIGNA whose telephone number is (571) 270-5262. The examiner can normally be reached on Monday - Friday 9:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID P. BRYANT/
Supervisory Patent Examiner, Art Unit 3726

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January 28, 2011